Fleetwood Group

Electronic Interactivity—the Ultimate feedback mechanism.

User Manual

Reply® Ativa

Applies to:

Keypad, Model WRS8200

(Firmware Revision 1.3X)

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Rev	Date	Description
A	05/04/2010	Revision 1.X Original
B	07/14/2010	Updated Patent Information
C	06/08/2011	Updated RF Power and Range table Added Label ID to System Icons
D	02/29/2012	Added Storage Temperature

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Reply® Systems

Introduction

The system consists of wireless (RF) handheld touch screen keypads and a base station. The system is generally used to record answers to multiple choice questions as part of a classroom presentation, decision-making session, focus group, or videoconference. It offers methods for collecting and immediately reporting group response. Reply® systems have been available for over 20 years and millions of keypads are currently used worldwide.

Reply® is a wireless handheld response system that provides interaction for meeting or learning environments. Keypad responses are transmitted to the base station, which processes and delivers the information to the attached computer.

Application software operates the base station and controls its associated keypads. While the system's hardware may offer powerful features, application software is the essential ingredient in applying the technology to generate useful results.

Applications/Advantages

Many meeting and learning venues require a mechanism for audience interaction. Moreover, many seek a method of automating surveys and grading activities. Reply® meets the need for such an interactive tool, bringing everyone together and instantly allowing measurement of interest, understanding, and involvement.

- Audience members can participate from their seat and personally indicate their opinions, ideas, and knowledge.
- Results of the interaction are immediately available, and their display offers presenters a valuable insight into the opinion and comprehension level of audience members.
- System setup typically involves handing a keypad to every participant and connecting the base station to a computer. No keypad wires or cabling need be installed prior to use. This allows fast, reliable, safe, and attractive installation.

RF Communication

The keypads communicate with the base station using wireless Radio Frequency (RF) technologies. The patented proprietary design has been rigorously tested and optimized for reliability and collection speed.

Technology Leadership, Patent Protection, and Certification

Fleetwood Group, Inc. maintains a leadership position in wireless development of audience response solutions. *United States Patents: 6,665,000, 5,724,357, 7,599,703 B2, 7,277,621 B2, 5,379,213, 7,746,820. European Patents: 0 069 773 B1, 1 427 278 B1, 1 478 099 B1* reflect the commitment to wireless technology leadership and the unique position that Fleetwood Group, Inc. brings to the market. Additional United States and foreign patents are pending.

Fleetwood Group, Inc. also maintains a commitment to complying with the United States Federal Communications Commission and various foreign regulatory requirements. Others are continuously being added. Please contact your reseller or Fleetwood Group, Inc. for more information on certification.

Other Fleetwood Group, Inc. Products

Fleetwood Group, Inc. is a manufacturer of quality electronic products that are sold through a worldwide reseller network. All Reply® products are designed and manufactured in Holland, Michigan, USA.

For more information on these products or our customization capability, please visit our website at www.replysystems.com

Principles of Operation

The Reply® System uses the latest in 2.4 GHz wireless technology to turn any meeting into a dynamic interactive experience for each participant without having to deal with the difficulties of cables and connectors.

Fleetwood is unique in the marketplace with its patented technology to provide a two-way link with the keypads. This design ensures that no responses are missed by requiring a keypad to retransmit the user's response until it is properly received by the base station. The design also allows the system to refuse to acknowledge any invalid entries. This is clearly superior to other technologies using one-way radio or infrared, which do not provide acknowledgment to the keypad when its entry is received, and do not have any way of rejecting invalid entries.

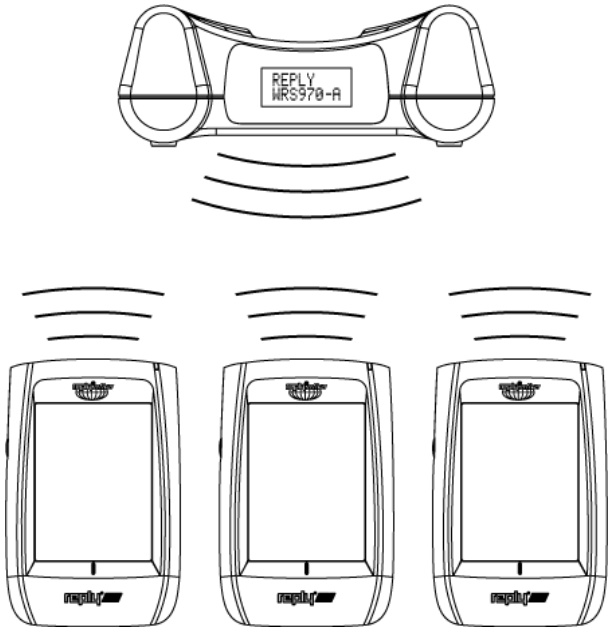

Figure 1 - System Diagram

The WRS970-A or WRS971-A Base station is the control center for the system and operates according to commands issued by system software. The base station can be set to any of the 31 available base identities through the OCX module. Each base station can process responses from up to 500 keypads.

A radio frequency packet is continuously sent out by the base station when the unit is powered on. Keypads can only communicate with similarly configured base stations.

System Description & Setup

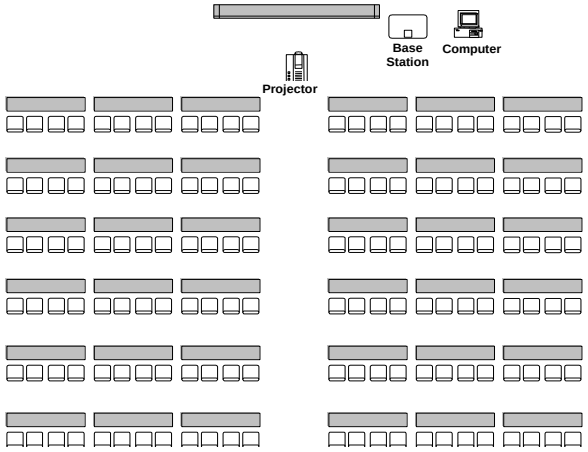

Figure 2 - Typical Room Layout

Placement of the Reply® System

WRS8200 keypads can operate in a room up to 650' x 650' (200m x 200m) in size. The Base Station should be centered in the room for optimal performance. The total range of the system is determined by the Base and keypad, whichever is shorter. Despite a robust communication system, walls and some other 2.4 GHz devices can moderately to severely limit the system's performance. If coverage of a larger area is necessary, elevation of the base station or centering in room can usually improve the reception of the keypad signals.

ⓘ Due to the properties of signals operating at 2.4 GHz, Fleetwood does not recommend placing any walls between the base station and the keypads. The material in a wall tends to absorb the RF signal and some reduced performance may be observed.
ⓘ Transmit power levels are controlled by system software. (see software documentation)

Product Diagram

Refer to the following diagram for several physical features of the keypad.

Figure 3 – Keypad Diagram

A Card Slot (end)
This slot may be used to hold a Stylus Card or may be used with Smart Cards for secured login (see Self-Paced Mode (Smart Card), pg 15), to save responses or to load data into the keypad.

B Indicator LED
A red-amber-green LED used to indicate charge status. (see Battery and Charging, pg 19)

C Touch Screen Color LCD Display with Backlight
Used to display the keypad interface and to interact with items on screen. Backlight functionality is customizable through software.

D Side Button
Used to turn the keypad on/off, connect to a new session, or to display the Popup Task Bar.

E Lanyard Loop
A lanyard or security cable may be threaded through this opening.

F Charge Contacts
For interfacing with the keypad charging system. (see Battery and Charging, pg 19)

G USB Port
Used to update keypad firmware and to provide power.*

H 1/8" [3.5mm] Jack
This standard tip-ring-sleeve headphone jack can be used for audio output in future firmware revisions.

I Internal Buzzer
When configured via software, the buzzer can emit a tone when the keypad is outside of RF range.

*USB Port is not intended for charging, and will not properly charge the battery. Continuous use with the backlight on will drain the battery, even when connected via USB.

Operation

Powering the Keypad On/Off

To power on the keypad, press the Side Button. After a few seconds, the keypad will display the startup splash screen.

To power off the keypad, press and hold the Side Button for approximately 1 second to display the New Session / Shutdown popup. Select "Shutdown" and the keypad will turn off.

> ⓘ Keypads can also be powered off by system software (refer to software documentation).
> ⓘ To save battery life, keypads will power off automatically. See the table below.

Table 1 – Automatic Shutdown Times

Condition	In A Session?	Shutdown
Keypad Inactivity	No	5 min*
Keypad Inactivity	Yes	60 min*
Out of range	Yes	10–40 min†

*Touch the screen to refresh time
†Time configured by system software

Connecting to Available Sessions

Touch to select the Available Session to which you wish to connect. A scroll bar will display next to the list of Available Sessions when there are more than will fit on the screen.

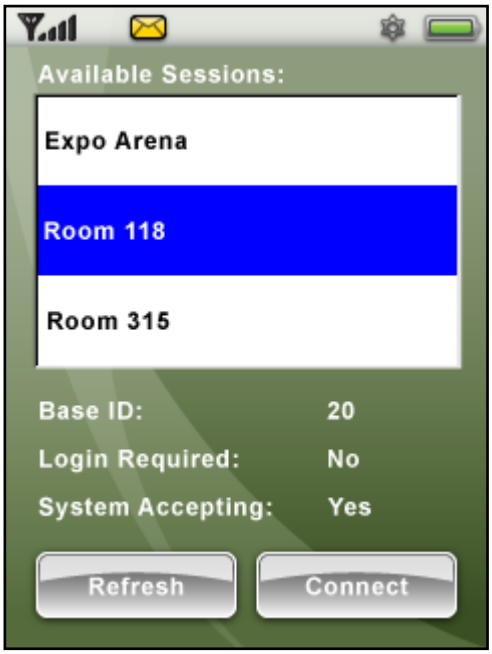

Figure 4 – Available Sessions screen

Once selected, additional information about the session appears below the list, including the session Base ID number, whether or not login is required, and whether or not the system is accepting new keypads in the session. Touch the Connect button and a dialog will confirm the selection.

Touch Refresh to update the list of Available Sessions as needed.

> ⓘ System software can be configured to automatically connect to keypads when there is only one Available Session. This will bypass the Available Sessions screen.
> ⓘ If the keypad is not allowed on the system, a message reporting "Not Authorized" will be displayed. Select another session from the list or see the system administrator for help.

Logging in to Sessions

A login screen will be displayed when attempting to connect to an Available Session requiring a login.

Figure 5 – Login screen

Use the keyboard to enter the login password, and select Go when complete.

ⓘ System software can secure password entry – character entry can display generic symbols in the entry box.
ⓘ Login may be bypassed when a Smart Card is used for authentication.

Connecting to a New Session

Press and hold the Side Button for approximately 1 second to display the New Session / Shutdown popup.

Figure 6 – New Session / Shutdown popup

When the New Session button is selected, the keypad will leave the current screen, search for active sessions, and display the refreshed Available Sessions screen.

System Icons

Icon Bar

Several icons are displayed on the Icon bar to indicate keypad functions and to provide access to certain features. Many of these icons and features can be disabled or hidden by the system software, and may not display.

- RF Signal Strength Indicator

Represents the strength of the signal received from the active session Base Station. 4 bars = strongest signal 0 bars = no signal

- RF Activity Indicators

When receiving data, the 'down' arrow will flash. When sending data, the 'up' arrow will flash – a useful diagnostic indicator.

- Ativa Messaging System

Send and receive text messages to and from the active session Base Station. (see Ativa Messaging System, pg 17)

- Message Waiting

The Ativa Messaging System icon will change to this icon when a new message has been received and is ready to be viewed. (see Ativa Messaging System, pg 17)

- Busy Indicator (animated)

This animated icon is displayed when the keypad is sending or storing data.

- Acknowledge Indicator

This icon is displayed when the keypad has been acknowledged and that sending or storing data was successful.

- Alert

Touch this icon to send a special notice to the presenter. This can be useful when asking for help, 'raising your hand,' or otherwise getting the presenter's attention. (please refer to system software documentation)

- Login Indicator

This icon will display when the keypad is connected to a session which requires login.

- Keypad Configuration Menu

Touch this icon to access the keypad configuration menu system. (see Keypad Configuration Menu, pg 18)

- Battery Indicators

This icon indicates the keypad battery level. (see Battery and Charging, pg 19)

- Navigation Arrows

Touch these icons to navigate backward/forward through Self-Paced Mode questions. (see Self-Paced Mode (Smart Card), pg 15)

- Question Number

Indicates the number of the currently displayed question when navigating through Self-Paced Mode questions. (see Self-Paced Mode (Smart Card), pg 15)

- Label ID

Displays the special number assigned. (see Label ID, pg 18)

Icon Popup

Access the Icon Popup screen by briefly pressing the Side Button.

Figure 7 – Icon Popup

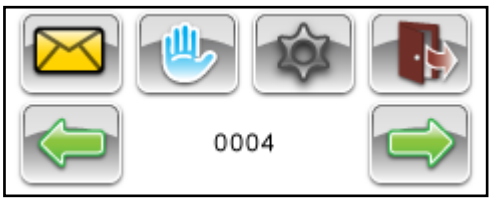

Figure 8 – Icon popup (Self-paced)

These icons are the same as those appearing in the Icon Bar.

- Ativa Messaging System – (see Icon Bar, pg 11)
- Alert – (see Icon Bar, pg 11)
- Menu Access – (see Icon Bar, pg 11)
- Exit – hides the Icon Popup Screen from view.
- Navigation Arrows (see Self-Paced Mode, pg 15)

ⓘ Individual icons may be disabled by system software and may not display.

Polling Types

Numerous polling types are available with the Reply® Ativa system via a customizable interface, allowing numerous question and feedback options. The color LCD equips the keypad to display flexible questions, and users are able to submit equally flexible responses, customized to suit specific needs – from simple to complex.

Responses are acknowledged by the system, providing a robust polling experience superior to one-way communication systems. Live status is clearly displayed for each response with Busy & Acknowledge Indicators. (see Icon Bar, pg 11) When system software enables it, many polling types are also capable of correct/incorrect feedback after polling is complete.

Single-Input Polling

This polling type allows for the selection of a single response. The last selection made during this type of polling will serve as the final choice, allowing for the selection to be changed as many times as necessary before polling is complete.

Figure 9 – Single-Input Example 1

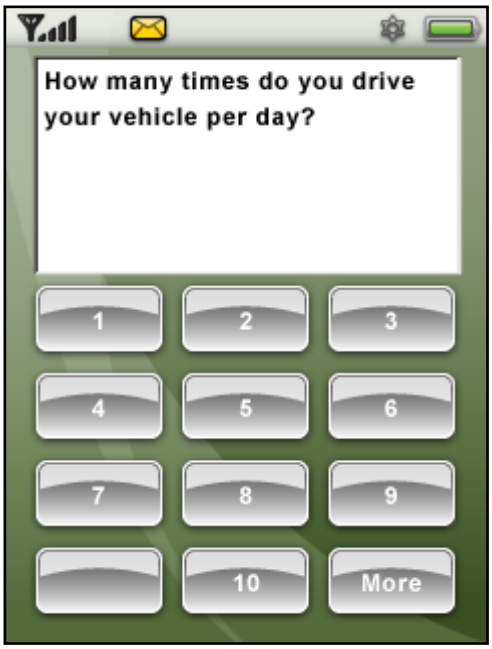

Figure 10 – Single-Input Example 2

Touch the desired button to respond. This mode does not require the use of a Send button – the selection is sent immediately.

Selected Button Appearance

In Single-Input Polling questions, the last selection made will appear as a highlighted button, making it clear which option has been selected. This will be the final response when polling for the question is complete.

Figure 11 – Single-Input polling selected button appearance

ⓘ Selected Button Appearance may be disabled by system software and may not display.

Multi-Input Polling

This polling type supports the entry of multiple characters of text, allowing responses of complete sentences, special characters, and more.

When using the QWERTY keyboard, press the ^ (Shift) button to toggle between capital and lowercase characters. Press the Sym button to toggle between characters and numbers/symbols. When numbers/symbols are shown, the ^ (Shift) button will toggle even more symbols.

When using the SMS keyboard, repeatedly press a button to cycle through the available letters. Repeatedly press the Symbol button to cycle through the available symbols.

Figure 12 – Multi-Input polling question with QWERTY entry

Use the QWERTY keyboard to enter a response and submit by touching the Go button.

Figure 13 – Multi-Input polling question with SMS entry

Use the SMS keyboard to enter a response and submit by touching the Send button.

Delegate Polling

This polling type allows for one or more selections from a list of options.

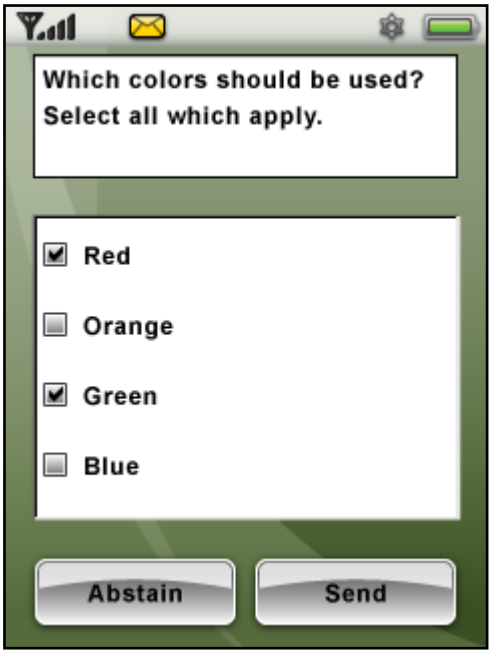

Figure 14 – Multi-Input polling question with delegate entry

Simply touch each option to select and submit by touching the Send button. The order in which the items are selected may be important depending on the software and voting scenario.

Ranking/Sorting Polling

This polling type allows for the ranking or sorting a list of options, useful for 'runoff' or 'roll off' voting, or when responses need to be organized in order of preference.

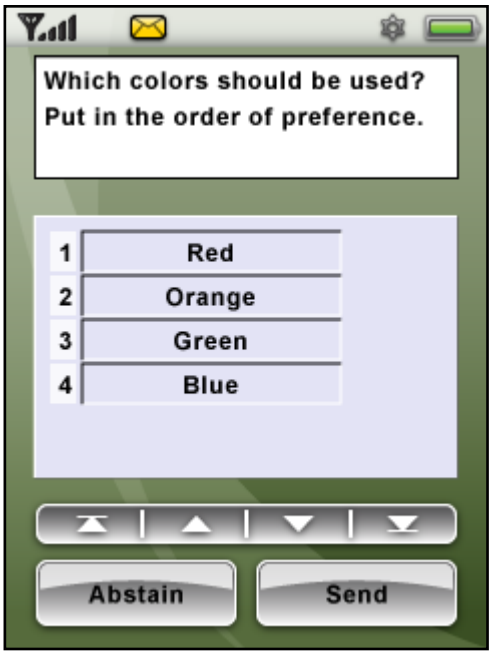

Figure 15 – Polling question, ranking/polling

Simply touch an option to select and move it to the desired position.

Or

UP DOWN

Up/Down arrow buttons are used to move the selection up/down one position in the list.

Or

SKIP UP SKIP DOWN

Skip Up/Skip Down buttons are used to move the selection to the top/bottom of the list.

Submit the sorted list by touching the Send button.

Moment-to-Moment Polling

This polling type allows for instantaneous, time stamped responses. When the value changes, it is submitted and recorded immediately, allowing a presenter to chart responses over time.

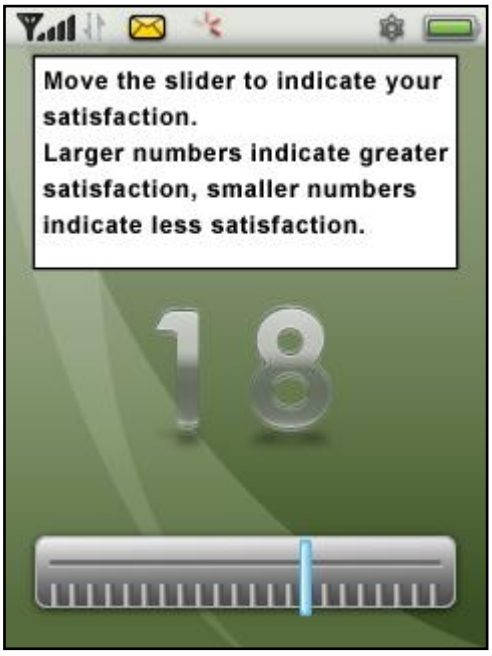
Move the slider to indicate your satisfaction.
Larger numbers indicate greater satisfaction, smaller numbers indicate less satisfaction.
18

Figure 16 – Polling question, moment-to-moment

Simply touch the desired area of the slider scale, or drag the marker to the desired area. No Send button is needed, as changes in response are submitted immediately.

Self-Paced Mode (Smart Card)

In this mode, polling questions are loaded from a Smart Card and navigated and responded to at the pace and in the order desired. The keypad can be used in this mode with or without a Base Station.

Self-Paced Mode with a Base

Many question types and their responses may be stored and accessed from a Smart Card. Questions may be accessed from an inserted Smart Card after the presenter has enabled the Self-Paced Mode. (see software documentation)

When enabled, use the arrows in the Icon Bar or in the Icon Popup to navigate (see Navigating through polling questions below)

Self-Paced Mode without a Base

Questions may also be accessed from an inserted Smart Card by selecting "Offline Card Access" from the list on the Available Sessions screen. (see Connecting to Available Sessions, pg 9 for instructions)

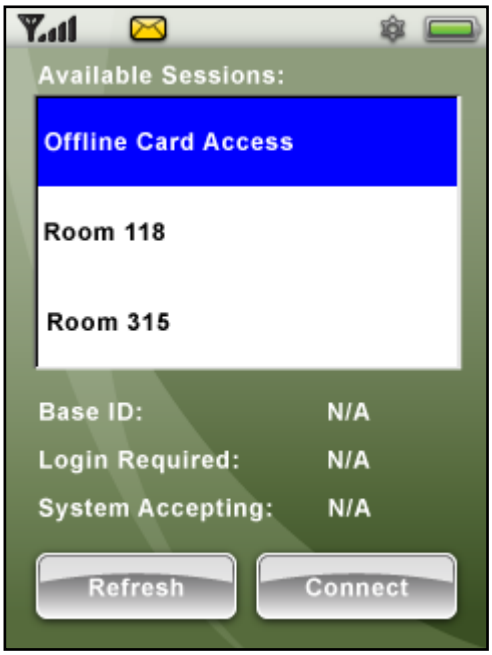

Figure 17 – Offline Card Access option

When connected, use the arrows in the Icon Bar or in the Icon Popup to navigate (see Navigating through polling questions below)

Navigating through polling questions

In Self-Paced Mode, navigation arrows and question number are displayed in the Icon Bar and in the Icon Popup.

Figure 18 – Self-Paced Mode Icon Bar

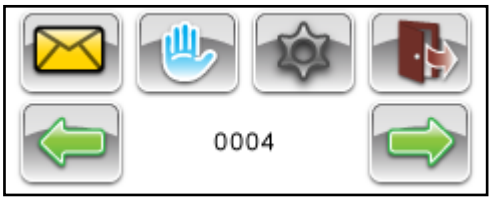

Figure 19 – Self-Paced Mode Icon Popup

Use the navigation arrows to travel between available polling questions.

Saving Responses

Responses to questions are saved automatically after each submission, and are not lost when the powering on/off. When a question is selected which has a saved response, the Acknowledge Indicator will display in the Icon Bar.

Figure 20 – Self-Paced Mode
saved responses / Acknowledge Indicator

Changing Responses

To change a response, simply navigate to the question and make a new selection or submit a new response. The Acknowledge Indicator will display in the Icon Bar when saving is completed successfully.

Ativa Messaging System

The keypad is capable of receiving and sending text messages from and to the Base Station. Messages can be sent to one or more keypads, or the entire keypad group. Keypads can also send messages to the Base Station.

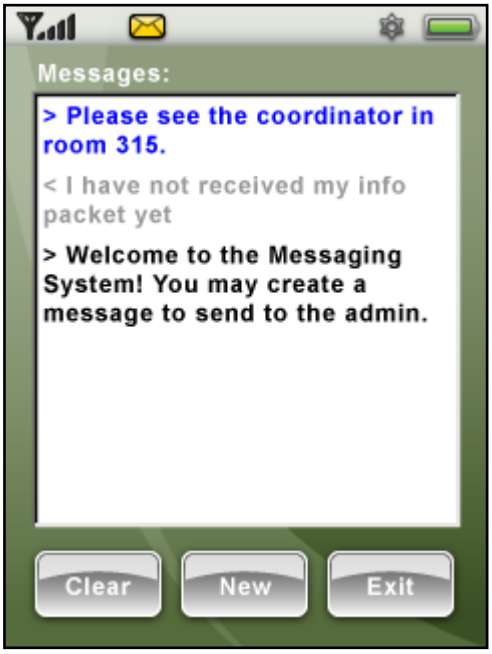

Figure 21 – Ativa Messaging System screen

Access the Messages Screen by touching the Ativa Messaging System icon in the Icon Bar or the Icon Popup screen.

ⓘ The Ativa Messaging System can be disabled by system software and may not be available.

Received Messages

Received messages begin with a > character to indicate they are received, and are displayed in blue text (unread) or black text (read). Messages are marked 'read' after they have been touched (selected).

> Welcome to the Messaging System! You may create a message to send to the admin.

Figure 22 – Unread received message

Sent Messages

Sent messages begin with a < character to indicate they are sent, and are displayed in gray text. This feature must be enabled through software in order to view sent messages in the list.

< I have not received my info packet yet

Figure 23 – Sent message

Creating a Message

To create a message to send to the presenter, touch the New button.

Figure 24 – Message to Send screen

Enter a message using the keyboard and touch the Go or Send button when complete.

ⓘ Sending messages can be disabled by system software and may not be available.
ⓘ Messages are limited to 250 characters, including spaces.

△Caution: All entered characters will be lost when leaving Message to Send screen by pressing Cancel!

Clearing Messages

To clear Received or Sent Messages, touch the message to select it, and press the Clear button.

ⓘ Clearing messages can be disabled by system software and may not be available.

△Caution: Cleared messages are permanently deleted from the keypad!

Keypad Configuration Menu

Properties

The properties screen displays several pieces of information about the keypad, inserted Smart Card, and the active session:

- Serial Number – This is a unique identifier assigned to each keypad from the factory, and can not be changed. It can be thought of as the 'name' of the keypad.
- Firmware Rev – This is the revision number of the firmware installed on the keypad.
- Boot Loader Rev – This is the revision number of embedded program which installs new firmware onto the keypad, and can only be changed at the factory.
- Label ID – Displays the special number assigned. (see Label ID, pg 18)
- Session – Displays the name that has been given to the currently active session.
- Base ID – Displays the number assigned to the currently active session Base.
- Address – This is the dynamically-assigned address of the keypad. It is used internally within the Ativa system software.
- Battery Level – Displays the current power level of the battery. (see Battery and Charging, pg 19)

Backgrounds

Keypads can display different backgrounds behind screens. This tab displays a list of background images that have been loaded into keypad memory. Images may be loaded via the Smart Card, and enabled for use with system software.

ⓘ Background control can be disabled and controlled by system software.

Smart Card

When a Smart Card is used to load personal information or Self-Paced Mode questions, information read from the inserted card is displayed here. (see Self-Paced Mode (Smart Card), pg 15)

- User Name – The user's name stored in the Smart Card.
- Card Ver – Displays the version of the Smart Card.
- Card Size – Displays the capacity of the inserted Smart Card.
- Questions – The number of questions recognized on the Smart Card.

Label ID

This feature may be used to identify keypads with a number other than the Serial Number for special circumstances. This number should only be changed by the system administrator. (please refer to software documentation)

Battery and Charging

Battery

△Caution: Batteries can be dangerous if mishandled, abused or damaged. If the keypad is abused or damaged, there is a rare instance that it could become too hot to touch and begin to swell or vent – DO NOT use the keypad, and place it in an open, well ventilated area. Cover the keypad with either sand or dirt, and allow 4-5 hours for the battery to expel all of its energy. Properly dispose of the keypad.
△Caution: NEVER immerse in water or any liquid.

The keypad is powered by an internal rechargeable Lithium-Polymer battery pack, and is NOT user-replaceable. Any attempt to replace the battery with the incorrect type could result in the risk of explosion, and will void the product warranty.

The keypad can operate up to 16 hours under typical usage conditions with a fully charged battery.

ⓘ Battery life will vary with use. Number of responses, backlight use, and polling modes will all impact battery life negatively with increased use.

Indicator LED

The Indicator LED will light red during charging. When charging has completed, the LED will light green.

After charging is complete, the LED will occasionally light red for shorter periods. This operation is normal, and desired to maintain an optimal battery charge.

If the LED lights amber/orange, a charging error has occurred. Simply remove/replace the keypad on the charging station.

Charging

The keypad should only be charged by the recommended charging system. Never attempt to charge a keypad with anything other than the charging system designed for the keypad.

A keypad with a fully drained battery will reach full charge in approximately 6-8 hours.

ⓘ Charging times will vary based upon the battery level.

△Caution: Charging should always be performed in a well ventilated area. Do not attempt to charge keypads in and enclosed space.
△Caution: Charging keypads for longer than 24 consecutive hours is not recommended.

Keypad Technical Specifications

Mechanical

Symbol	Parameter	Value			Unit
		Min	Typ	Max	
d_l	Length	–	4.39 [111.0]	–	in. [mm]
d_w	Width	–	2.91 [73.8]	–	in. [mm]
d_h	Height (Thickness)	–	0.73 [18.5]	–	in. [mm]
w_b	Weight	–	0.280	–	lbs

Electrical

Symbol	Parameter	Value			Unit
		Min	Typ	Max	
V_{DD}	Voltage	3.3	–	4.2	V
V_{lvw}	Low Voltage Warning (Red Bar)	3.5	–	3.6	V
V_{lvs}	Low Voltage Shutdown	–	3.30	–	V
T1	Operating Temperature	0	20	40	˚C
T2	Storage Temperature	0	20	45	˚C

RF Power and Range

Power Level	Power Output (dbmW)
Low	-21
Medium-Low	-11
Medium-High	-6
High	-1
Max (Europe)	13
Max (US)	19

Appendix

Wireless Performance and Wi-Fi Avoidance

The Reply® Ativa system is equipped with frequency hopping to avoid interference from other products. However, a heavily used wireless internet access point can make it more difficult to communicate on certain frequencies. There are three commonly used channels for Wi-Fi 802.11b/g access points: Channel 1, 6 and 11. The Reply® Ativa system can be set up to avoid 1 or 2 of these channels as needed.

ⓘ The settings to avoid Wi-Fi are stored in the base station, not the keypad. These settings remain active (even after disconnecting power) until they are changed through software. See your network administrator for help in determining the optimum setting.

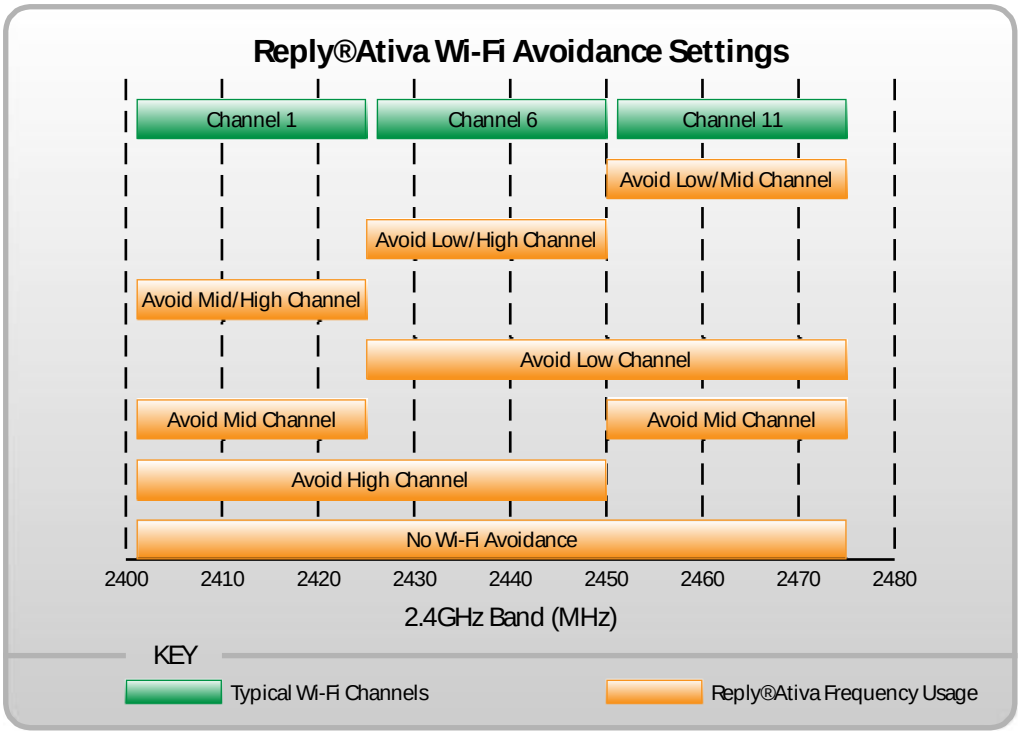

Figure 25 – Wi-Fi Avoidance

If there are three or more 802.11b/g or two 802.11n access points covering the entire band, the configured to use a higher power level setting. The level is only certified for use in the United States and Canada. (see

RF Power and Range, pg 21 and system software documentation)

For areas that don't have wireless internet issues but are using multiple Reply systems in nearby rooms, it is recommended to lower the power level setting to avoid system interference. Set the power to what is necessary to reliably cover the room or area in which the system will operate.

WRS970-A Data Format and Command Lists

The Base Station data format, command lists, and associated microcode are proprietary to Fleetwood. People who wish to develop their own applications may purchase the Reply® Ativa™ API. This is a software developer's toolkit that includes the necessary communication drivers for the base station.

Software

Off-the-shelf software packages are available for Reply®. These packages are available through Fleetwood's network of qualified dealer-developers.

Contact Fleetwood for details on the software applications that are certified for use with Reply® products.

Accessories

Call Fleetwood or an authorized dealer for information on available storage/shipping cases, extra cables or power supply kits.

Limited Product Warranty

Fleetwood Group, Inc. warrants its Reply® Wireless Response System components for a period of 12 months (90 days for accessories) from the date of manufacture for any material or workmanship defect in the product. This warranty does not extend to batteries or any product component, which has been subjected to misuse, neglect, accidental breakage, improper installation, use outside of present guidelines, or alteration outside of our factory.

Reply® Base Stations and Keypads use internal antennas built directly on the printed circuit board. Modifying the antennas in any way will result in reduced range and will void the warranty.

There are no user serviceable parts inside Reply® Base Stations or Keypads.

Fleetwood Group, Inc. agrees to remedy, at the factory, any product defect, or at its discretion, replace any component or part of the product provided the owner complies with the following procedures:

The owner is to determine that the problem is not the battery or a faulty or improper connection with the personal computer or power source.

The owner will contact our Product Service Coordinator during standard hours Monday through Thursday 7:00 AM to 3:30 PM and Friday 6:00 AM to 12:00 PM Eastern Standard Time at

1-888-GO REPLY (467-3759)
Or
www.replysystems.com/rma/

to obtain a Return Material Authorization (RMA) number prior to shipping the product back to the factory.

The owner will send the defective component via prepaid freight to:

Fleetwood Group, Inc.
Electronics Division
Product Service Coordinator
RMA#:
11832 James Street
Holland, MI 49424

If the factory determines the defect is due to negligence or oversight on the part of the owner, the owner will be invoiced for the cost of the repair

FCC, IC, and EU Compliance Information

WRS8200 Wireless Response Keypad

Responsible Party Pertaining to the Declaration of Conformity

Fleetwood Group, Inc.
11832 James Street
Holland, MI 49424
Attn: Product Service Coordinator
Phone: 888-467-3759

Standards and Guidelines

This device complies with the following European Directives and USA/Canada Regulations:

Directive 1999/5/EC on radio equipment and telecommunication terminal equipment and the mutual recognition of their conformity

Directive 2006/95/EC on the harmonization of laws of member states related to electrical equipment designed for use within certain voltage limits

The USA Federal Communications Commission (FCC) Rules and Regulations
Industry Canada Rules and Regulations

This device complies with the following national and international standards:

EN 301 489-1 V1.6.1: 2005: EMR; EMC standard for radio equipment and services. Part 1: Common technical requirements.

EN 301 489-17 V1.2.1: 2002: EMR; EMC standard for radio equipment and services. Part 17: Specific conditions for 2.4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment.

EN 300 328 V1.7.1: Electromagnetic compatibility and Radio spectrum Matters (ERM);Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques.

EN 60950-1: 2001 + A11: 2004: Information technology equipment – Safety. Part 1: General requirements

FCC Part 15B, 15.247: 10-01-2006: Radio Frequency devices: Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz.

IC RSS-210 Issue 7: 2007: Low power license-except radio-communications devices (all frequency bands): Category 1 equipment.

FCC/IC Compliance

This device complies with Part 15 of the FCC Rules and RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions: (1) this device may not cause interference and (2) this device must accept any interference, including interference that may cause undesired operation of the device. The user is cautioned that changes or modifications to the device that are not approved by the manufacturer could void the user's authority to operate the device.

EU Compliance

CE

This device is a 2.4 GHz low power response system controller intended for residential and commercial use in all EU and EFTA member states.

Notice

The base and keypad units may be susceptible to **E**lectro**s**tatic **D**ischarge (ESD) and other similar fast transient events causing system interruption. Should system interruption occur, reboot computer, reset base unit by disconnecting and reconnecting USB cable.

Troubleshooting Procedures

ISSUE	POSSIBLE CAUSE	SOLUTION
Keypad battery life is short	The backlight is configured to stay on	If backlight is needed, use the on key press or acknowledgement settings
Keypad does not turn on	Batteries are dead	Recharge the batteries
Poor RF Performance	Base not in open area	Do not place the base inside cabinets
	Base located too close to other electronic equipment.	Place the base away from other electronic devices, such as TV's, DVD/VCR players and similar
	More than one base unit on the same Base ID	Check that the bases covering an area are not on the same Base ID
	Wi-Fi RF Interference	Verify the Wi-Fi avoidance settings are set correctly in the software. See your network administrator for channel settings
	Other Interference	Always physically separate other radio devices by at least 10' (3 m). This includes Wi-Fi, Bluetooth, ZigBee and other similar devices
	Multiple Base Stations are too close	Keep base stations separated and do not stack units
Short range with keypads	Power level setting too low	Check that the power level setting of the system is appropriate for the range trying to be achieved (Some countries have restrictions as to the power level setting allowed. See Section 0)
	Interference	See "Poor RF Performance"
Keypad won't authorize	Base station the keypad tried to connect to has been disconnected	Press SEARCH key again and select a new base

ISSUE	POSSIBLE CAUSE	SOLUTION
Base not found to connect to	Drivers not installed or can't be found	Connect to the internet and then connect the base unit or if no internet, insert the CD that came with the system
Keypad touch screen not responding	Firmware is not responding	Press and hold the power key down for approximately 10 seconds to reset the keypad
	Touch screen needs calibration	Contact your reseller for assistance with screen calibration
Keypad is beeping	Out of range of the session	Move into RF range of the session
	Software enabled keypad locator feature	See the system administrator about software configurations

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